

THE UNITED STATES & THE COMMERCIAL SPACE INDUSTRY – PARTNERS IN INNOVATION & EXPLORATION

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Commercial Spaceflight Federation (CSF)

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COMMERCIAL SPACEFLIGHT FEDERATION



CSF's Membership:

- 70+ businesses, organizations, and universities
- Satellite launch, International Space Station services, satellite operations, science platforms, human spaceflight (orbital & suborbital), habitats, space-based manufacturing, spaceports, etc., contracting with international commercial and government customers.

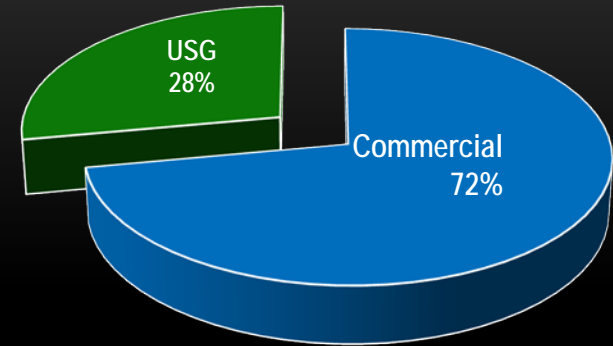
CSF's Mission: promote the development of commercial spaceflight, pursue ever higher levels of safety, and share best practices and expertise throughout the industry.

70+ CSF MEMBERS - EXAMPLES



COMMERCIAL LAUNCH MARKET

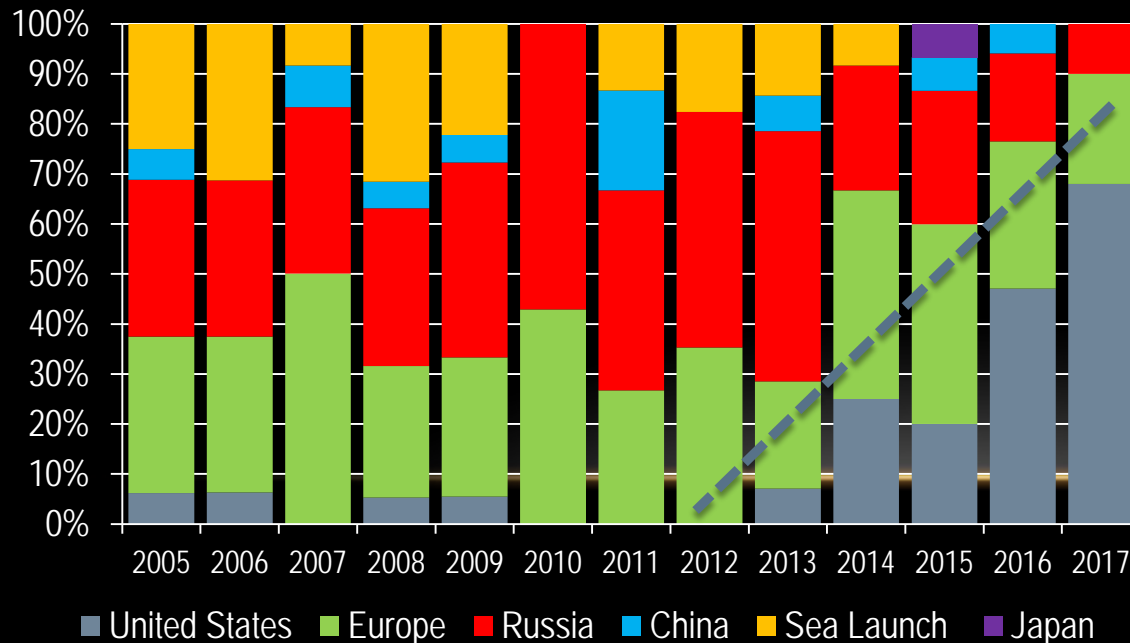
- Roughly 20-25 commercially accessible satellite launches available per year
- New, commercial launchers bringing more competition to the market
- Reusability will further improve competition



Example: SpaceX Launch Customer Base, Grouped by Sector

- USG customers: NASA, National Security Space community
- Commercial customers span the globe.

Commercial Launch Market Shares by Country



RECENT DEVELOPMENTS IN COMMERCIAL SPACE

- Private mission to the moon approved by US.
- US company launched, landed and re-launched rocket stage with commercial satellites as payloads.
- Multiple US companies preparing for private human spaceflight.
- US company, in partnership with NASA, launched spacecraft to ISS, recovered, refurbished and relaunched that spacecraft to ISS.
- US companies, in partnership with NASA, installed an inflatable habitat and 3D printing on the ISS.



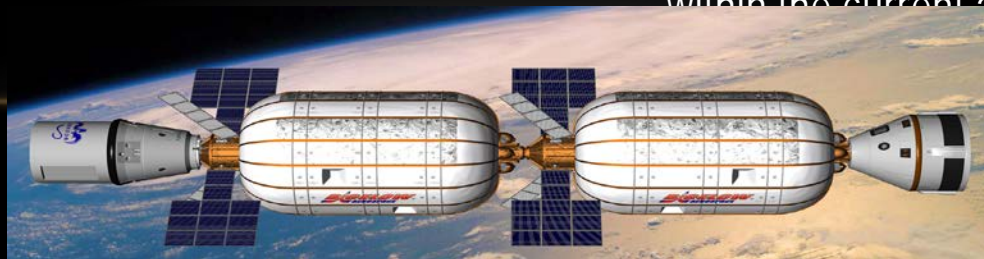
US GOVERNMENT = PARTNER & REGULATOR

USG as Partner

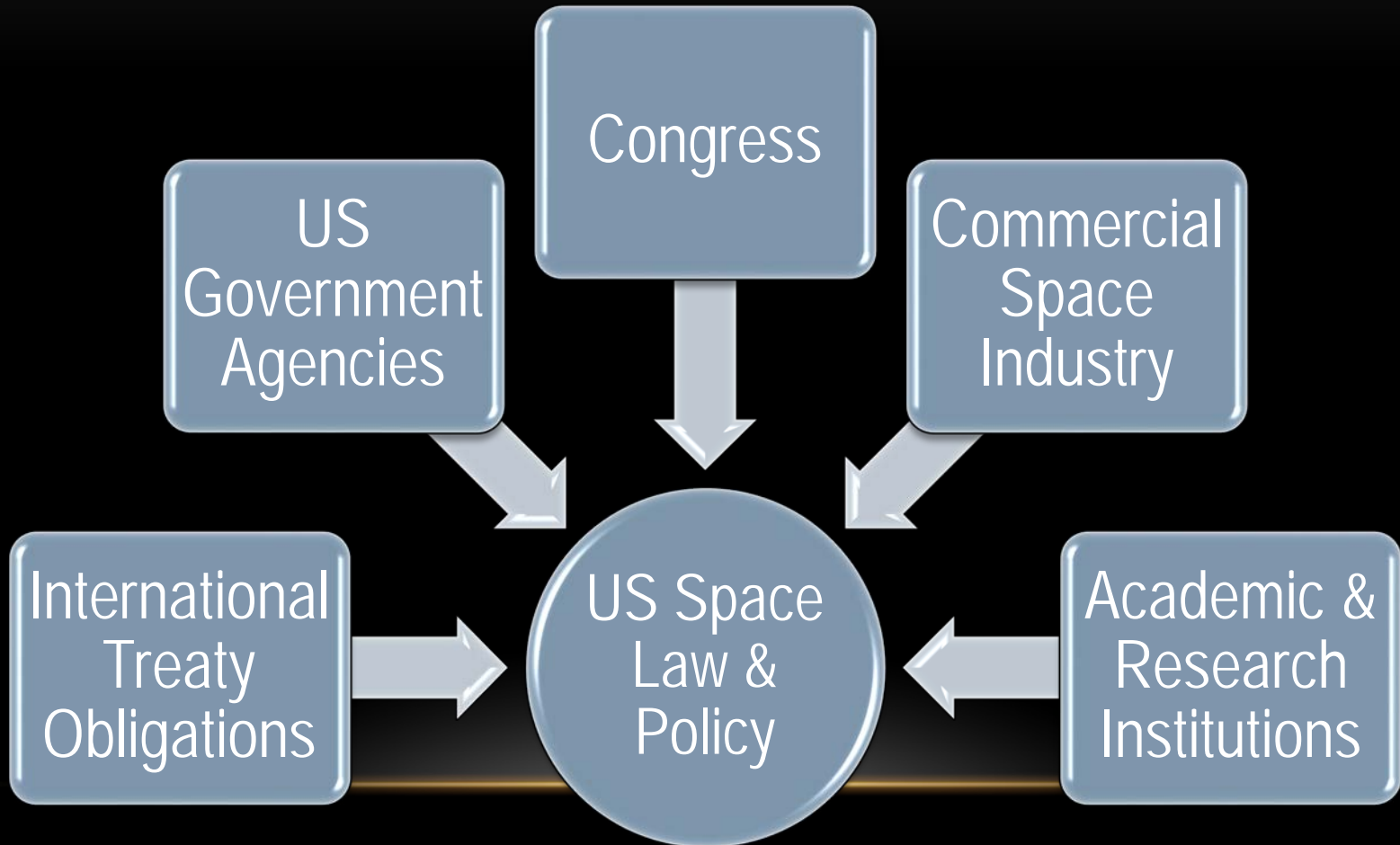
- NASA procures services from US commercial space industry:
 - NASA Astronaut carriage to the International Space Station
 - ISS cargo delivery and return
 - Venture class launch vehicles
- Commercial sector partners with NASA on developing and testing innovative technologies.

USG Regulatory Oversight

- Federal Aviation Administration Office of Commercial Space Transportation (AST) licenses launches, landings and reentries.
- Department of Commerce National Oceanic & Atmospheric Administration (NOAA) regulates Earth imaging activities.
- Federal Communications Commission oversees spectrum allocation and licensing.
- Discussion regarding allocating authority for space activities that do not clearly fall within the current authorities.



US SPACE LAW & POLICY – INCLUSIVE & TRANSPARENT



EXPANDING HUMANITY'S PRESENCE IN SPACE

- Safe, reliable and affordable access to space will have positive world-wide impacts from:
 - human spaceflight opportunities;
 - space-based research & manufacturing;
 - remote sensing and earth imaging capabilities;
 - expanding internet access to remote areas; and
 - creating new economic opportunities.



